

4.


The **IMPORTANCE** *of* **EYE-STRAIN**



[Reprinted from Medical Standard, April, 1907]



CHICAGO:
G. P. ENGELHARD & COMPANY,
353-357 Dearborn Street.



Digitized by the Internet Archive
in 2016

<https://archive.org/details/b22480067>

THE IMPORTANCE OF EYE-STRAIN.

It seems to us that the issue between Dr. Gould and the medical profession ought to be quite clearly drawn and susceptible of resolution to those who will fearlessly and receptively set their faces toward the light. As we understand the present status it is, in a general way, that medical men have at length been brought to acknowledge that errors of refraction and consequent eye-strain may be responsible for a small percentage of headaches and mild neuroses, but that Gould contends for a much more numerous and far-reaching etiological influence, which they are not prepared to concede. In other words, the profession says to Gould, "We allow a small measure of your claims, but you have overdrawn the picture," to which Gould replies, "So far from exaggerating the matter, the half has not yet been told."

One method of arriving at the truth or falsity of the proposition is by the inductive process—by instances. And this Dr. Gould has done to the extent that could reasonably be expected of any individual. But the trouble with induction is that no instance proves more than the issues involved in that particular case; and a hundred instances are no more than an individual demonstration multiplied by a hundred. As Gould

himself says, counting noses is not the proper way to establish a scientific truth. Facts do not establish a law; they are orientated and accounted for by the law. And a fact is frequently found that is in apparent conflict with the law, as water is frequently found flowing uphill in apparent contradiction of the law of gravity. Huxley, the brilliant, used to tell Spencer, the ponderous, that his (Spencer's) idea of a tragedy was to have a deduction upset by a fact. But both Huxley and Spencer, of course, knew better.

Much more convincing and far-reaching is the argument from deduction. Medical men may have their own opinion and interpretation of Dr. Gould's instances; they may even discredit them altogether—probably many do—and unfortunately the skeptics either cannot or will not make instances of their own. But if from the antecedent premise of the nature and significance of the function in question, the function of vision, it can be shown that the effects of eye-strain predicated by Gould are logically inevitable, then the issue can no longer be evaded by reasonable men, except by denying the acknowledged truths of biology and physiology. This kind of proof Gould has also furnished, and in reviewing the evidence here we simply summarize what he has already set forth at greater length and in far better form.

* * *

First and foremost, because all the lesser func-

tions of the body subserve and are orientated by the one supreme function of the man, as parts are integral fractions of a whole, may be noted the over-truth that the function of vision is practically the only channel through which the human organism holds conscious correspondence with the external universe, outside of its immediately contiguous environment. Hearing is the only other function which at all competes with vision in this respect, and the range of functional activity for ordinary sounds cannot for a moment compare with that for ordinary sights. In the ordinary course of life one is not sensibly affected by sounds occurring more than a few yards distant, and it is at comparatively infrequent intervals that one actively exercises the faculty. Into the scope of conscious vision, on the contrary, there constantly enters an aggregation of visual images, ranging in distance from a few feet to millions of miles and in dimensions from a speck of dust to a tier of mountains; and there is scarcely an instant of waking life at which one is not actively exercising the function.

Coincident and coequal with this consideration is the further one, that in an intelligent human being, from birth to death, every separate and distinct exercise of the visual function (frequently following each other in rapid succession) is irresistibly and inevitably accompanied, willy-nilly, by a correspondingly separate and distinct group of physiologic and psychic judgments, per-

formed by the brain and responded to by the various efferent poles throughout the body. Practically all spacial relations are mediated through the visual function, and it is the great functional clearing house through which all the other senses are assorted and orientated and without which none of them have their perfect work. So that Dr. Gould can hardly be accused of exaggerating when he asserts that the history of vision, both in the individual and in the race, is practically the history of intellectual and biological development.

The next important feature of the visual function which claims our attention is that remarkable characteristic known to physiologists as imperativeness. Just as there is an imperative demand on the part of the respiratory function for inspiration, which will only yield—nay, can only yield—to the last extremity of disability, so the visual function exhibits an imperative desire for a clear image which only surrenders at the last ditch. And this quality has both a practical and a philosophical significance. Practically it imposes upon the individual the sufferance of every degree of inconvenience and the complete disability of the mechanism before clearness of vision is finally surrendered. Philosophically it argues the paramount importance of the visual function, since imperativeness is recognized as nature's peremptory measure for insuring the constant performance of a vital function. We recognize the imperative demand of the respira-

tory function as the trade-mark of its vitalness in organic life; by the same token the imperative demand of the vision for a clear image signalizes it as a vital element in psychic life.

It need only be added that the mechanical crux upon which all of the foregoing functional phenomena hinge is the accurate representation of every focal point in the visible universe, successively brought into the range of consciousness, by a corresponding focal point upon the retina. And this is the office of refraction.

If these central premises are not sound, who among the despisers of eye-strain is prepared to undertake their disproof? If they are sound, then what more need be said as to the crucial importance of refraction and the far-reaching effects of refractive errors? It is not a question of Dr. Gould or any other man's personal opinion, nor even of the instances which Gould and his confreres can furnish. It is a logical scientific proposition, which is either true or is not true, according as the premises are sound or unsound. And a profession which, while admitting the premises, ignores the conclusions, is self-condemned as obstinate and negligent.

